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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,410	11/08/2001	Ryosuke Furue	Q67066	5224

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SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

EXAMINER

GAGLIARDI, ALBERT J

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,410

Applicant(s)

FURUE, RYOSUKE

Examiner

Albert J. Gagliardi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004 and 29 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 November 2003 has been entered.

Claim Objections

2. Claims 7-11 are objected to because of the following informalities:

Claims 7-11 are identified as withdrawn. This designation is improper. The claims should be identified "original", "cancelled", "amended" or "new" as appropriate. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. Claims 1, 6, 7-11, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller *et al.* (US 6,373,074 B1).

Regarding claim 1, *Mueller* discloses (Figs. 1, 4, and 6-7) a radiation image information recording/reading apparatus comprising: an image recording unit (70) for recording image information in a stimuable phosphor sheet by irradiating radiation onto the sheet (col. 10, lines 46-51); a stimulating main scan means (10, 11) for carrying out a main scan of the sheet with excitation light; a vertical scan means (70, 71), 73); a photoelectric detection means (12) for detecting emitted light from a side of the sheet (15) on which the excitation light has been irradiated; the detection means (12) being a line sensor (col. 5, lines 1-3) disposed on only one

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side of the phosphor sheet (see generally Fig. 1); a linear light source (11) disposed on only one side of the sheet (see generally Fig. 1); an erasing means (74); wherein the excitation light main scan means comprises a linear light source (11) for emitting light in the form of fan beams (see generally Fig. 4) and the detection means comprises a line sensor (12) and wherein the line sensor (12) and the line source (11) are disposed on the same side of the stimuable phosphor sheet (see generally Fig. 1).

Regarding the scan means and the detection means being located on a side opposite a side of the irradiation of the radiation, the examiner notes that while *Mueller* does not specifically identify the particular direction from which the radiation may be irradiated, the embodiment as shown according to Fig. 6, disclosing two scan means (one on each side of the sheet), inherently suggests that the particular side on which the scan means is located is not critical to the invention and therefore, absent some degree of criticality, would have been a matter of routine design choice within the skill of a person of ordinary skill in the art depending on the needs of the particular application.

Regarding claim 6, *Mueller* discloses that the light source may comprise a laser diode array and a cylindrical lens (see generally Fig. 4 and col. 7, lines 53-60).

Regarding claims 7-11, although claims 7-11 are considered are submitted as being withdrawn from consideration, the examiner notes that even if the claims were considered, such claims would not impart patentability to the readout apparatus because the inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25USPQ 69 (CCPA 1935); see also MPEP 2115). The examiner also notes that *Mueller* further suggests a stimuable phosphor sheet (15).

Regarding claim 15, *Mueller* suggests the radiation recording/reading apparatus include a table for supporting an object (col.10, lines 46-57), the phosphor sheet (15), scan means including the light source (11), and the line sensor (12) are provided in this order (see explanation regarding claim 1 above) and the phosphor sheet is fixed and the scan means moves along the table (see generally Fig. 7).

Regarding claim 16, *Mueller* discloses that the vertical scan means moves across the sheet from one end to the other during readout of the sheet after the information has been stored (col.6, lines 37-56). Although not specifically disclosed, those skilled in the art appreciate that it would have been obvious, if not an inherent aspect of the apparatus, that the scan means be located at a position not overlapping with the stimuable phosphor sheet during recording so as to avoid the scanning means from interfering with recording of the image.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Mueller*, as applied above, and further in view of *Kohda et al.* (US 5,151,604).

Regarding claim 2, although *Mueller* does not provide specific details of the specific type of stimuable phosphor sheet used in the apparatus, the examiner notes that a wide variety of stimuable phosphors sheets are known in the art, including sheets having a phosphor layer and a reflection layer wherein the phosphor layer is located closer to the excitation light scan means (see for example *Kohda* at Fig. 1-(3) and col. 5, lines 38-60). As such, it would have been a matter of routine design choice within the skill of a person of ordinary skill in the art to utilize one of the known functionally equivalent stimuable phosphor sheets, as suggested by *Kohda*, so as to produce a radiation image with high sensitivity.

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5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Mueller* and *Mueller* in view of *Kohda* as applied above, and further in view of Goodman *et al.* (US 5,874,744).

Regarding claim 3 and 4, although *Mueller* and *Kohda* do not provide specific details of the specific type of stimuable phosphor sheet used in the apparatus, the examiner notes that a wide variety of stimuable phosphors sheets are known in the art, including anisotropic phosphor sheets (see for example *Goodman* at Fig. 1; col. 1, lines 12-38; and col. 2, lines 5-10). As such, it would have been a matter of routine design choice within the skill of a person of ordinary skill in the art to utilize one of the known functionally equivalent stimuable phosphor sheets, as suggested by *Goodman*, so as to produce a radiation image with high sensitivity.

Note: although claim 2-4 have been rejected on the basis of prior art, the examiner notes that regardless of the obviousness of the use of a specific stimuable phosphor sheet, such claims would not otherwise be patentable because it has been held that the material or object manipulated in an apparatus (in this case the stimuable phosphor sheet) does not impart patentability to the apparatus (see MPEP 2115).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Mueller* and *Mueller* in view of *Kohda* and *Mueller* in view of *Kohda* and *Goodman* as applied above, and further in view of Ohta (US 5,381,017).

Regarding claim 5, although *Mueller*, *Kohda*, and *Goodman* do not disclose the use of a radiation absorption plate such absorption plates are well known. *Ohta*, for example, discloses (Fig. 1A) a radiation image storage apparatus (1) comprising a radiation absorption plate placed close to the surface of the phosphor sheet (10) on the side opposite the side of the radiation

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irradiation and which is moved away from the sheet after the time of radiation irradiation (i.e., during readout) (col. 4, lines 24-30 and lines 54-59). *Ohta* teaches that such plate allows for improved imaging by reducing back scattered radiation (col. 4, lines 60-63). As such, it would have been obvious to modify the device so as to utilize an absorption plate, as suggested by *Ohta* so as to allow for an improved image.

Response to Arguments

7. Applicant's arguments filed 1 June 2004 have been fully considered but they are not persuasive.

8. Regarding applicant's argument that *Mueller* does not include a radiation source for recording the image, the examiner disagrees. As not above, *Mueller* specifically states that the apparatus may be inserted directly into an x-ray table or conventional x-ray unit such that removal of the cassette for reading out is not required (col. 10, lines 45-58). As those skilled in the art appreciate, conventional x-ray units inherently (or obviously) include an x-ray irradiation source and that the limitation of not requiring removal for readout inherently suggests the apparatus be used in conjunction with an irradiation source.

9. Regarding applicant's argument that it would not be obvious to include the radiation source in the cassette, the examiner agrees, but the examiner also notes that a limitation of placing the radiation source within the cassette is not an aspect of the claims. As appreciated by those skilled in the art, the irradiation source is part of the overall x-ray unit and would be located external to the actual cassette that is only a portion of the overall unit.

10. Regarding applicant's argument that *Mueller* does not disclose the line sensor and line source disclosed on only one side of the sheet, the examiner disagrees. The examiner notes that

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Fig. 1 specifically shows the sensor (12) and source (11) on only one side of the sheet. Regarding, as best understood, the other remaining limitations of claim 1, the examiner assumes applicant to be referring to the limitation of the irradiation source being located on the side opposite the sensor and the light source, which as noted in the above rejection is viewed as a non-critical and well-known obvious design choice. The examiner points applicant's attention to *Goodman* (cited in conjunction with the rejection of claim 3), which provides evidence of the well-known use of the source and the sensor being located show on the side opposite to the irradiation source (see generally Fig. 1).

Allowable Subject Matter

11. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Dependent claim 14 is considered allowable for reasons of record as noted by applicant in the response filed 1 June 2004. In particular, the examiner notes that simply removing the sheet from the cassette for readout does not specifically suggest a moving device for moving the radiation absorption plate. The examiner also notes that, upon further consideration, it would not necessarily have been obvious to modify *Mueller* in view of *Ohta* since any moving means suggested by *Ohta* would be part of the means for removing the sheet for readout, but that *Mueller* specifically suggests that the sheet and cassette need not be removed for readout (col.4, lines 1-4).


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Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert J. Gagliardi whose telephone number is (571) 272-2436. The examiner can normally be reached on Monday thru Friday from 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Albert J. Gagliardi
Primary Examiner
Art Unit 2878

AJG